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10/613,854	07/03/2003	Jerry A. Krill	1919-SPL	4337

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EXAMINER	
LI, SHI K	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,854	KRILL ET AL.	
	Examiner	Art Unit	
	Shi K. Li	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8-11 and 14-21* is/are rejected.

7)☒ Claim(s) *5-7,12 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. FIG. 1, FIG. 2, FIG. 3a, FIG. 3b, FIG. 4, FIG. 5, FIG. 6, FIG. 7a and FIG. 7b are objected to under 37 CFR 1.84(o) because there are no descriptive legends for the boxes. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 8-9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Levens (U.S. Patent 5,371,600).

Regarding claim 1, Levens discloses an energy distribution system for a multi-story building 10 comprising source 12. Levens teaches in FIG. 5 lighting generator for generating illumination beam 36 and infrared heat generator for generating heat beam. Levens teaches in col. 4, lines 57 fiber optics for the distribution channel.

Regarding claim 8, Levens teaches in FIG. 5 lamp enclosure 12 and lamps 26.

Regarding claim 9, Levens teaches in FIG. 5 mirror 30.

Regarding claim 11, Levens teaches in FIG. 5 that sources 26 generate heat and visible light.

4. Claims 1-2, 4 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuchta (U.S. Patent 5,602,668).

Regarding claim 1, Kuchta discloses in FIG. 7 an optical fiber system for distributing radiation into a room comprising a light generator 4 for generating visible light, LEDs for generating infrared energy. Inherently, infrared electromagnetic wave is heat energy (see, e.g., "Newton's Telecom Dictionary").

Regarding claim 2, Kuchta teaches in FIG. 7 optical wireless information signals.

Regarding claim 4, Kuchta teaches in FIG. 7 that the optical fiber system carries visible light and infrared light with optical information signals. Inherently, infrared light carries heat energy.

Regarding claim 10, Kuchta teaches in FIG. 7 an enclosure for the LEDs.

Regarding claim 11, Kuchta teaches in FIG. 7 that the LEDs and the lamp 4 are within a single enclosure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta (U.S Patent 5,602,668) in view of Green et al. (U.S. Patent Application Pub. 2002/0141011 A1).

Kuchta has been discussed above in regard to claims 1-2, 4 and 10-11. The difference between Kuchta and the claimed invention is that Kuchta does not teach bi-directional traffic for

the information signals. Green et al. teaches in FIG. 1 bi-directional traffic between local data I/O node 19a and user equipment such as PC and workstation. One of ordinary skill in the art would have been motivated to combine the teaching of Green et al. with the optical fiber system of Kuchta because bi-directional traffic supports interaction between users and the optical fiber system and most communication and telecommunication traffic is bi-directional in nature, e.g., telephone conversation and database transaction. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide bi-directional traffic, as taught by Green et al., in the optical fiber system of Kuchta because bi-directional traffic supports interaction between users and the optical fiber system and most communication and telecommunication traffic is bi-directional in nature.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta (U.S. Patent 5,602,668) in view of Giles (U.S. Patent 6,486,994 B1).

Kuchta has been discussed above in regard to claims 1-2, 4 and 10-11. The difference between Kuchta and the claimed invention is that Kuchta does not teach a user attachment for supporting optical wireless communication. Giles teaches in FIG. 1 a PCMCIA transceiver for supporting infrared wireless communication. The infrared port can be attachment to user equipment, e.g., a laptop computer as illustrated in FIG. 3A of Giles. One of ordinary skill in the art would have been motivated to combine the teaching of Giles with the optical fiber system of Kuchta because such an attachment can be shared among devices when it is needed and can be detached from portable device so that the portable device can be carried around without the additional weight. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an attachment for supporting optical wireless communication, as

taught by Giles, in the optical fiber system of Kuchta because such an attachment can be shared among devices when it is needed and can be detached from portable device so that the portable device can be carried around without the additional weight.

8. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta and Giles as applied to claim 14 above, and further in view of Minana et al. (U.S. Patent 6,639,733 B2) and Heidemann (U.S. Patent 5,335,109).

Kuchta and Giles have been discussed above in regard to claim 14. The difference between Kuchta and Giles and the claimed invention is that Kuchta and Giles do not teach an optical holographic diffuser and a receiver amplifier. Minana et al. teaches high efficiency optics for non-imaging applications. Minana et al. teaches in col. 16, lines 16-34 using holographic diffusers for collecting light onto a receiver. One of ordinary skill in the art would have been motivated to combine the teaching of Minana et al. with the modified optical fiber system of Kuchta and Giles because holographic diffuser is highly efficient and compact for concentrating radiation onto a receiver. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use holographic diffuser, as taught by Minana et al., in the modified optical fiber system of Kuchta and Giles because holographic diffuser is highly efficient and compact for concentrating radiation onto a receiver.

The combination of Kuchta, Giles and Minana et al. still fails to teach a receiver amplifier. However, the use of amplifier for boosting signal strength is well known in the art. For example, Heidemann teaches in FIG. 1 an optical pre-amp 10 for an optical receiver. One of ordinary skill in the art would have been motivated to combine the teaching of Heidemann with the modified optical fiber system of Kuchta, Giles and Minana et al. because the optical pre-amp

of Heidemann has large bandwidth and great dynamic range for preventing damage to photodetector. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include optical amplifier, as taught by Heidemann, in the modified optical fiber system of Kuchta, Giles and Minana et al. because the optical pre-amp of Heidemann has large bandwidth and great dynamic range for preventing damage to photodetector.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta, Giles, Minana et al. and Heidemann as applied to claims 15 and 19 above, and further in view of Oettinger et al. (U.S. Patent Application Pub. 2003/0215242 A1).

Kuchta, Giles, Minana et al. and Heidemann have been discussed above in regard to claims 15 and 19. The difference between Kuchta, Giles, Minana et al. and Heidemann and the claimed invention is that Kuchta, Giles, Minana et al. and Heidemann do not teach a MEMS mirror. Oettinger et al. teaches in FIG. 2 MEM mirror for directing electromagnetic wave to specific direction. One of ordinary skill in the art would have been motivated to combine the teaching of Oettinger et al. with the modified optical fiber system of Kuchta, Giles, Minana et al. and Heidemann because MEM mirror is small and reliable. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use MEM mirror for directing electromagnetic wave to specific direction, as taught by Oettinger et al., in the modified optical fiber system of Kuchta, Giles, Minana et al. and Heidemann because MEM mirror is small and reliable.

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta, Giles, Minana et al. and Heidemann as applied to claims 15 and 19 above, and further in view of Clark et al. (U.S. Patent Application Pub. 2002/0171896 A1).

Kuchta, Giles, Minana et al. and Heidemann have been discussed above in regard to claims 15 and 19. The difference between Kuchta, Giles, Minana et al. and Heidemann and the claimed invention is that Kuchta, Giles, Minana et al. and Heidemann do not teach a transmitter amplifier. Clark et al. teaches in FIG. 2 transmitter amplifier 124. One of ordinary skill in the art would have been motivated to combine the teaching of Clark et al. with the modified optical fiber system of Kuchta, Giles, Minana et al. and Heidemann because transmitter amplifier boosts signal level so that signal can propagate to a far distance. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include transmitter amplifier, as taught by Clark et al., in the modified optical fiber system of Kuchta, Giles, Minana et al. and Heidemann because transmitter amplifier boosts signal level so that signal can propagate to a far distance.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta, Giles, Minana et al., Heidemann and Clark et al. as applied to claim 17 above, and further in view of Oettinger et al. (U.S. Patent Application Pub. 2003/0215242 A1).

Kuchta, Giles, Minana et al., Heidemann and Clark et al. have been discussed above in regard to claim 17. The difference between Kuchta, Giles, Minana et al., Heidemann and Clark et al. and the claimed invention is that Kuchta, Giles, Minana et al., Heidemann and Clark et al. do not teach a MEMS mirror. Oettinger et al. teaches in FIG. 2 MEM mirror for directing electromagnetic wave to specific direction. One of ordinary skill in the art would have been motivated to combine the teaching of Oettinger et al. with the modified optical fiber system of Kuchta, Giles, Minana et al., Heidemann and Clark et al. because MEM mirror is small and reliable. Thus it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use MEM mirror for directing electromagnetic wave to specific direction, as taught by Oettinger et al., in the modified optical fiber system of Kuchta, Giles, Minana et al., Heidemann and Clark et al. because MEM mirror is small and reliable.

12. Claims 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levens (U.S. Patent 5,371,600) in view of Fries (U.S. Patent 4,297,000).

Levens has been discussed above in regard to claims 1, 8-9 and 11. The difference between Levens and the claimed invention is that Levens does not teach in FIG. 5 lighting generator with at least two light sources each having a different color. Levens teaches in FIG. 9 three (3) light sources with read yellow and green colors. That is, the energy distribution system of Levens is capable of distributing lights of different colors. FIG. 9 of Levens is an application for traffic signaling. Fries teaches in FIG. 3 a light distribution system for various light utilization devices. It is obvious to use a red light for the "EXIT" sign 42 and white light for illumination, such as device 45. One of ordinary skill in the art would have been motivated to combine the teaching of Fries with the energy distribution system of Levens because different illumination devices require different colors. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use light sources of different colors, as taught by Fries, in the energy distribution system of Levens because different illumination devices require different colors.

13. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuchta (U.S. Patent 5,602,668) in view of Abdo (U.S. Patent 7,024,422 B2).

Kuchta has been discussed above in regard to claims 1-2, 4 and 10-11. The difference between Kuchta and the claimed invention is that Kuchta does not teach multi-user and single

user. Abdo teaches in col. 3, lines 40-42 that computing devices can be single user, e.g., PC and workstation and multi-user, e.g., server. One of ordinary skill in the art would have been motivated to combine the teaching of Abdo with the optical fiber system of Kuchta because sharing expensive server reduces system cost and dedicating PC to single user allows the user to tailor hardware and software to individual needs. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to share server in multi-user mode and dedicate PC to single users, as taught by Abdo, in the optical fiber system of Kuchta because sharing expensive server reduces system cost and dedicating PC to single user allows the user to tailor hardware and software to individual needs.

Allowable Subject Matter

14. Claims 5-7 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

skl
17 August 2006

Shi K. Li
Patent Examiner